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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,562	06/17/2002	Phillip Fields Hayward	32860	1698

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Lowell, MA 01852

EXAMINER	
PATEL, VISHAL A	

ART UNIT	PAPER NUMBER
3676	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/031,562	HAYWARD, PHILLIP FIELDS	
	Examiner	Art Unit	
	Vishal Patel	3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 25-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 25-47 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 25-32, 34, 37, 39-40, 42-46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayward (WO. 97/26473).

Regarding claim 25: Hayward discloses a method of installing gaiters around a range of joints defined between joint members having different dimensions (bellows being connected to a universal joint, see abstract). The method having the steps, providing a range of gaiters (multiple of 10 having range of tubular sections 14-16, where 15 can be stretched to fit a larger shaft or same size shaft or smaller shaft, see page 13, lines 1-5) having different dimension in which each end portion of at least one gaiter (one of 10 having 15) of the gaiter range incorporates a respective single annular fitting section or channel (section of 15), the range of joints dimensions being greater than the range of gaiter dimensions (this is the case since 15 will fit overt a larger dimensioned joints) and at least some of the gaiters in the range of gaiter being stretchable to fit two or more joints of the joint range so the joint range can be accommodated by the range to fit particular joint and applying respective gaiters around the joints such that two or more joints of different dimensions have applied thereto gaiters having the same dimensions and which are stretchable as aforesaid (in conclusion the section 15 of each gaiter is stretchable over different dimensioned joints).

Regarding claim 26: The range of gaiters have a tubular body part (tubular body of 10) and opposite end portions tapered in a direction away from the body portion.

Regarding claims 27-28: Each joint is defined between first and second members and each gaiter (10) of the range of gaiters comprises a flexible tubular body (tubular body of 10) having first and second end portions (15 and 19) and a central portion (portion between 15 and 19) therebetween the end portions being configured for secure attachment to respective first and second joint members (joint 30 and 17 are connected to the gaiter).

Regarding claim 29: Each gaiter incorporates a central portion having folds therein to permit axial extension of the gaiter body (folds between end portions 15 and 19).

Regarding claim 30: The gaiter range includes at least one gaiter having a plurality of seating channels (20-22 and channel above 19) at one or each end portion (end portions 15 and 19).

Regarding claim 31: At least one gaiter of the gaiter range is dimensioned to fit exactly, without any substantial stretching of the gaiter, one or more of the range of joints while also being stretchable to fit other joints in the joint range (15 is stretched to fit over different joints).

Regarding claim 32: A wall of the at least one gaiter is configured and dimensioned to provide the requisite stretch characteristics for a given range of joint member dimensions (the gaiter wall 15 has dimension characteristic for a given range of joints).

Regarding claim 34: The at least one gaiter has stretch characteristics to accommodate the process of fitting the gaiter (page 13, lines 1-5 and page 9, lines 5-9). The at least one gaiter may be formed from a synthetic rubber compound (page 8, lines 2-3) formulated to provide a minimum stretch. The gaiter is made of rubber compound.

Regarding claims 37 40 and 42-45: The at least one gaiter has stretch characteristics to accommodate prolonged installation in position about a joint (this would be the case since the gaiter is made of rubber compound).

Regarding claim 39: The at least one of the gaiters in the said gaiter range are formed from a synthetic rubber compound which is formulated so that the gaiter is also compressible (able to compress) to fit two or more joints of the joint range (since the gaiter is made from synthetic rubber as claimed by applicant, it is able to compress, the portion 15 is compressible to fit other joint members by band 49).

Regarding claim 40: One or both end portions of the at least one gaiter of the gaiter range are radially compressible (since the gaiter is made from synthetic rubber and bands similar to 49 are placed on both ends the gaiter is able to compress).

Regarding claim 42: One or both end portions are radially compressible, such that the compressed end portion and, in particular, the pertaining fitting section retains a substantially circular cross-section (If minimum compression is occurred the sections 15 and 19 will still have substantially circular cross-section).

Regarding claim 43: Each gaiter of the range is stretchable in all directions, and is at least stretchable longitudinally and transversely relative to the longitudinal axis of the gaiter (page 9, lines 5-9 and page 13, lines 1-5).

Regarding claim 44: The end portions of one or more gaiters of the gaiter range incorporate one or more internal or external ribs or beads (ribs 25 or beads at the end of 23) which extend wholly or partially around the circumference of a respective end portion of the said one or more gaiters.

Regarding claim 45: The wall thickness of the gaiters in the gaiter range is constant (wall thickness are uniform of the gaiter as much as claimed by the applicant, page 6, line 20-page 7, line 2).

Regarding claim 46: The wall thickness of one or more gaiters of the range incorporate a gaiter wall which varies in thickness to alter the flexing characteristics of the respective gaiters (page 6, line 20-page 7, line 2, describes how wall thickness will effect flexibility).

Regarding claim 47: The gaiter is stretchable to fit two or more joints of a joint range (page 9, lines 5-9 and page 13, lines 1-5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayward in view of Lammin (GB. 2,320,067).

Hayward discloses the gaiter to have a thickness that can be constant or varying but fails to disclose the thickness to be 2mm. Lammin discloses the wall thickness of the bellows being 2mm (page 5, lines 30-33). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the thickness of the gaiter to be 2mm as taught by Lammin, to provide a specific flexibility (since thickness and flexibility are related as if a piece is thick than less flexibility and vies versa, evidence is showed Hayward by page 6, line 20-page 7, line 2, describes how wall thickness will relate to flexibility).

Regarding claim 33:

Hayward and Lammin disclose the claimed invention except the thickness to be 3mm. Discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the thickness to be 3mm as a matter of design choice and to provide a particular flexibility (since flexibility and thickness are related as showed by Hayward).

5. Claims 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayward in view of IBM Technical Disclosure Bulliten, July 1984 (referred to as IBM).

Hayward disclose the invention substantially as claimed above but fail to disclose the rubber to be a neoprene compound having a 550% at break and 115% diameter stretchability without 10% change in the properties of the gaiter rubber (this is the case due to the bellow to be made from neoprene rubber compound). IBM discloses a bellow that is made of neoprene rubber compound (IBM discloses the bellow to be made from the same material as claimed by the applicant, hence IBM bellows has neoprene rubber compound having 550% at break and 115% diameter stretchability without 10% change in the properties of the gaiter rubber). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the synthetic rubber by a neoprene rubber compound as taught by IBM, to provide uniform thickness or better manufacturing characteristic or flexibility or stretchability (inherent to neoprene and also see IBM). Furthermore applicant has argues that one skilled in

the art would be well acquainted with the various characteristics of various synthetic rubber compounds. Therefore, one skilled in the art would know how to formulate a rubber compound to provide the characteristics referred to in claim 36 (see page 8 of argument section filed on 4/12/04).

6. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayward.

Hayward discloses the claimed invention except the one or both end portions are radially compressible to a compressed diameter which is 98% of the uncompressed respective end portion diameter. Discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the said one or both end portions are radially compressible to a compressed diameter which is 98% of the uncompressed respective end portion diameter, as a matter of design choice. Furthermore Hayward discloses the bellows to be compressible.

Response to Arguments

7. Applicant's arguments filed 4/12/04 have been fully considered but they are not persuasive.

Applicants' argument that Hayward does not teach or disclose a gaiter that is stretchable over different shaft sizes is not persuasive because Hayward on page 9, lines 7-9 discloses that a single section made from rubber of sufficient flexibility to be stretchable over different shafts sizes and on page 13, lines 1-5, the gaiter material has sufficient elasticity to allow the remaining

end fitting section 15 to be opened out from its frustro-conical shape in fig. 3, to a cylinder shape shown in fig 5, to enable this end fitting section 15 to fit over the cylindrical joint member 30.

Applicants' argument that the gaiter of Hayward must be cut down to fit different sized joints is true but Hayward also discloses that a single section can be stretchable to fit different sized shafts (page 9, lines 7-9).

Applicants' argument that GB 2320067 teaches a polymeric seal having a thickness of 2mm is true but GB 2320067 is only used to teach that a seal can have a particular thickness (2mm) nothing else.

Applicants' argument that the thickness is just not a matter of design choice is correct but the thickness will contribute to the stretchability, this is not persuasive since Hayward teaches or discloses to have a particular thickness to provide a particular flexibility (page 6, lines 8-11).

Applicants' argument against Gratziani is moot. Furthermore Gratziani is only used to teach that a bellows can have a varying thickness or constant thickness and nothing more.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (703) 308-8495. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann, can be reached on (703) 306-4115.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168. Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to: 703-872-9326, for formal communications for entry before Final action: or,
703-872-9327, for formal communications for entry after Final action.

Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive, Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

VP
July 8, 2004

Judy J. Swann
Supervisory Patent Examiner
Tech. Center 3600

ROBERT J. SANDY
PRIMARY EXAMINER